

JUL 06 2004

LR-N04-0297



United States Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

**NRC BULLETIN 2003-02 INSPECTION RESULTS  
LEAKAGE FROM REACTOR PRESSURE VESSEL LOWER  
HEAD PENETRATIONS AND REACTOR COOLANT  
PRESSURE BOUNDARY INTEGRITY  
SALEM GENERATING STATION UNIT 1  
DOCKET NO. 50-272  
FACILITY OPERATING LICENSE NO. DPR-70**

Reference: Letter LRN-03-0367, 30-Day Response To NRC Bulletin 2003-02  
Leakage From Reactor Pressure Vessel Lower Head Penetrations  
and Reactor Coolant Pressure Boundary Integrity, dated September  
11, 2003.

Bulletin 2003-02, "Leakage From Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity," required that within 60 days of plant restart following the next inspection of the reactor pressure vessel (RPV) lower head penetrations, pressurized water reactor (PWR) addressees should submit a summary of the inspections performed, the extent of the inspections, the methods used, a description of the as-found condition of the lower head, any findings of relevant indications of through-wall leakage, and a summary of the disposition of any findings of boric acid deposits and any corrective actions taken as a result of indications found. The restart from 1R16 for Salem Generating Station Unit 1 was June 3, 2004.

The results of our examination are provided in Attachment 1 to this letter. Should you have any questions regarding this response, please contact Michael Mosier at (856) 339-5434.

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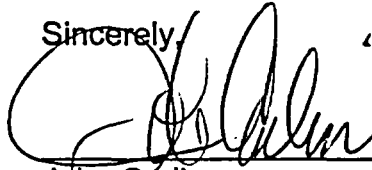
JUL 06 2004

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,

Executed on

7/6/04



John Carlin

Vice President – Nuclear Assessment

Attachment

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## **BULLETIN 2003-02 REQUEST**

**Within 60 days of plant restart following the next inspection of the RPV lower head penetrations, the subject PWR addressees should submit to the NRC a summary of the inspections performed, the extent of the inspections, the methods used, a description of the as-found condition of the lower head, any findings of relevant indications of through-wall leakage, and a summary of the disposition of any findings of boric acid deposits and any corrective actions taken as a result of indications found.**

## **PSEG RESPONSE:**

During the Salem Unit 1 refueling outage (1R16) April 2004, a planned 100% bare-metal visual examination (VT-2) of the reactor pressure vessel lower head penetrations was performed to inspect for any indication of boric acid deposits. This inspection was performed in accordance with SC.RA-IS.RC-0001, "Vessel Head Penetration Examination". This inspection was performed in accordance with commitments contained in our letter dated September 11, 2003 (LRN-03-0367).

To facilitate the examination, the reflective mirror insulation was lowered from the reactor pressure vessel lower head, providing a 360-degree, 100% visual access to all penetrations. Since the inspection was not restricted or inhibited in any manner by the presence of insulation, debris or other factors that interfered with the possible detection of boric acid leakage, the capability of detecting and discriminating small amounts of boric acid deposits, if present, was fully afforded to the two certified Level III VT-2 examiners.

The intersections of all 58 penetrations were easily observed 360-degrees by VT-2. There was no indication or presence of boric acid deposits. The intersections between the penetrations and the lower head were well defined and clean of any boric acid crystal growth extruding from the lower head on the outside surface of the penetration.

Forty of the 58 penetration nozzles possessed various amounts of residual rust at or near the nozzle intersection, most at the downhill side of the intersection. Five of these 40 nozzles also had small amounts of translucent white residue, but not at the intersection. One of the 40 nozzles had translucent white residue at the nozzle intersection. Also found were small rust trails and translucent white trails on the bottom head. These trails appeared to originate from above the lower head area. The most likely cause of the trails, rust, and translucent white residue was previous reactor cavity seal leakage. The reactor cavity seals are temporary seals that are installed for refueling purposes. The observed rusting is general surface corrosion of no appreciable depth. This will have no impact on the integrity of the reactor vessel or effect operation of the reactor vessel. All penetrations examined during this inspection were found to be acceptable and did not exhibit any evidence of component degradation or leakage.

The bottom vessel head was power washed. This removed some of the rust and white translucent powder. Also, paint chips were removed. Photos were taken to document the condition and facilitate future inspections. No corrective actions were required.